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Michael J. Otto

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EXAMINER

MCAVOY, ELLEN M

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL J. OTTO,
JAMES E. NORFLEET,
DENNIS K. CLAPPER,
and KALYAN C. SINGAMSHETTY

Appeal 2010-002129
Application 10/792,056
Technology Center 1700

Before ADRIENE LEPIANE HANLON, PETER F. KRATZ, and
MARK NAGUMO, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

This is a decision on appeal under 35 U.S.C. § 134 from an Examiner's final rejection of claims 193-221. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

The subject matter on appeal is directed to a method of providing extreme pressure lubrication of drilling equipment during drilling operations. The method employs a drilling fluid system comprising a continuous phase that includes *a dispersion comprising insoluble fatty acid soap particles of alkali metals* wherein the alkali metal has a valence of 1. Spec., para. [0017]. The Appellants disclose that "it is believed that the fatty acid soap reacts with the metal surface [of the drilling equipment] to form a substantially continuous lubricating film." Spec., para. [0012].

Claim 193, reproduced below, is illustrative of the subject matter on appeal.

193. A method of providing extreme pressure lubrication of drilling equipment during drilling operations, the method comprising:

providing a drilling fluid system having effective rheology and fluid loss control properties, the drilling fluid system comprising a continuous phase comprising as an integral component *a dispersion comprising a quantity of insoluble fatty acid soap particles* comprising alkali metal selected from the group consisting of lithium, potassium, rubidium, cesium, and combinations thereof; and

drilling through a subterranean formation using the drilling fluid system under conditions effective to maintain effective rheological properties and gel strengths and to maintain effective fluid loss control properties, and to react the insoluble fatty acid soap particles with one or more metal surfaces of drilling equipment in contact with the drilling fluid system, thereby producing lubricated drilling equipment comprising one or more metal surface comprising a substantially continuous lubricating film providing improved

lubricity as reflected in an increase in lubricating film strength compared to a control during extreme pressure testing.

App. Br., Claims Appendix (emphasis added).¹

The only rejection before us on appeal is the rejection of claims 193-221 under 35 U.S.C. § 103(a) as unpatentable over Clark (US 5,658,860, issued Aug. 19, 1997) or the combination of Clark and Chesser (US 6,403,537 B1, issued Jun. 11, 2002).²

B. DISCUSSION

The Examiner finds that Clark discloses an oil-in-water well fluid emulsion wherein the oil-phase may comprise naturally occurring fats, oils, and derivatives thereof, such as alkali metal substituted fatty acids.³ Ans. 3; Clark, col. 4, l. 63-col. 5, l. 3 and col. 5, ll. 14-67. The Examiner recognizes that Clark does not disclose that the fatty acid component is “insoluble” as recited in the claims on appeal. Nonetheless, the Examiner contends that “the components of the invention and of Clark are seen to be the same so the fatty acids of Clark must also be insoluble.” Ans. 5.

The Appellants argue that based on the teachings of Clark, one of ordinary skill in the art would have selected *liquid* derivatives of Clark’s “naturally occurring fats and oils” for use as the oil phase of Clark’s oil-in-water emulsion.

¹ Appeal Brief dated June 2, 2009.

² The Appellants discuss the teachings of US 3,047,494 to Browning throughout the Appeal Brief. *See, e.g.*, 8-9 and 17 (item 26.). However, the Examiner has not relied on Browning in the § 103(a) rejections on appeal. Therefore, the teachings of Browning have not been considered in rendering this Decision on Appeal.

³ The Examiner relies on Chesser as evidence that “drilling fluid systems conventionally contain acrylamide monomers.” Examiner’s Answer dated August 19, 2009 (“Ans.”), at 3-4.

The Appellants argue the Examiner has not established that one of ordinary skill in the art would have provided Clark's fluids with a continuous phase comprising *a dispersion of insoluble fatty acid soap particles* comprising alkali metal as recited in the claims on appeal. App. Br. 11; *see also* App. Br. 16-17 (items 15 and 16).

Significantly, the Examiner has not directed us to any credible evidence demonstrating that the oil-in-water emulsion disclosed in Clark comprises a dispersion of insoluble fatty acid solids in a continuous liquid phase as recited in the claims on appeal.⁴ For this reason, the § 103(a) rejection of claims 193-221 is reversed.

C. DECISION

The decision of the Examiner is reversed.

REVERSED

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⁴ An "emulsion" is defined as "A stable mixture of two or more immiscible liquids held in suspension by small percentages of substances called emulsifiers." *Hawley's Condensed Chemical Dictionary* 461 (Richard J. Lewis, Sr. ed., Van Nostrand Reinhold Co. 12th ed. 1993).